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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/527,385	04/06/2006	Valentino Villari	30882/SCG5204	2243

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EXAMINER	
KWIECINSKI, RYAN D	
ART UNIT	**PAPER NUMBER**
3635	

DATE MAILED: 11/03/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/527,385	VILLARI ET AL.	
	Examiner	Art Unit	
	Ryan D. Kwiecinski	3635	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *06 April 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-10* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-10* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *10 March 2005* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *3/10/2005*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Preliminary Amendment

Preliminary amendments of the specification, abstract, and the claims received March 10, 2005 have been received and entered. Claims 1-10 are pending in this office action.

Drawings

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the "at least one functional layer in addition to the fireproof layer and the transparent TiO_2 layer" from claim 4, lines 3-4 must be shown or the feature(s) must be canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an

application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

A substitute specification excluding the claims is required pursuant to 37 CFR 1.125(a) because the amendments render it difficult to consider the application or to arrange the papers for printing or copying, See 37 CFR 1.125.

A substitute specification must not contain new matter. The substitute specification must be submitted with markings showing all the changes relative to the immediate prior version of the specification of record. The text of any added subject matter must be shown by underlining the added text. The text of any deleted matter must be shown by strike-through except that double brackets placed before and after the deleted characters may be used to show deletion of five or fewer consecutive characters. The text of any deleted subject matter must be shown by being placed within double brackets if strike-through cannot be easily perceived. An accompanying clean version (without markings) and a statement that the substitute specification contains no new matter must also be supplied. Numbering the paragraphs of the specification of record is not considered a change that must be shown.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 1 recites the limitation "the incidence of UV radiation" in lines 4-5. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over USPN 5,496,640 to Bolten et al. in view of US Pub No. US 2002/0045073 A1 to Finley.

Claim 1:

Bolten et al. teaches a fireproof glazing unit comprising at least two transparent glass substrates (11,12,0 Fig.1) spaced from each other, at least one transparent fireproof layer disposed between the glass panes (13, Fig.1), Bolten et al. does not teach a transparent TiO_2 layer that reduces the incidence of UV radiation onto the fireproof layer on at least one side of said fireproof layer.

Finley teaches a transparent TiO_2 layer (32, Fig.1) that reduces the incidence of UV radiation onto the fireproof layer on at least one side of said fireproof layer.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have coated the glass substrates of the glazing with a layer of titanium oxide in order to block the UV radiation from engaging the fireproof layer as well as transmitting through the glazing. It is a known characteristic of certain fireproof materials to be susceptible to environmental influences, which can reduce or negate their ability to function. Preventing the fireproof layer from absorbing large amounts of UV radiation would then be obvious.

Claim 2:

Bolten et al. and Finley teach the fireproof glazing unit according to claim 1 (above), Finley teaches wherein the TiO_2 layer is disposed on an outer surface of one glass pane (Page 4, Para. 33, lines 16-18) facing outwardly thereof.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have disposed the titanium oxide layer on the outer surface of one pane of glass as long as the titanium oxide layer is able to function on the outer surface of the pane of glass. Applying the layer to different surfaces is a design choice as long as the layer will perform the same functions on those different layers. Therefore applying the titanium oxide layer on the outer surface is obvious.

Claim 3:

Bolten et al. and Finley teach the fireproof glazing unit according to claim 1 (above), Finley teaches wherein the TiO_2 layer is disposed between an inner surface of an outwardly-facing glass pane and the fireproof layer (Page 4, Para. 33, lines 16-18).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have disposed the titanium oxide layer on the inner surface of the outwardly-facing pane of glass as long as the titanium oxide layer is able to function on the inner surface of the pane of glass. Applying the layer to different surfaces is a design choice as long as the layer will perform the same functions on those different layers. Therefore applying the titanium layer on the inner surface is obvious.

Claim 4:

Bolten et al. and Finley teach the fireproof glazing unit according to claim 1 (above), Finley teaches the fireproof glazing unit comprises at least one functional layer (30, Fig.1) in addition to the fireproof layer and the transparent TiO_2 layer.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have added additional layers to the fireproof glazing in order to change or enhance the properties of the glazing unit. This design choice all depends on the materials used for the layers and the desired effects of the overall glazing.

Claim 5:

Bolten et al. and Finley teach the fireproof glazing unit according to claim 1 (above), Finley teaches wherein the thickness of the TiO_2 layer is about 10 nm to 75 nm (Page 3, Para. 28, lines 9-11).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have applied the titanium oxide layer with any desired thickness in order to obtain the necessary characteristics of the material.

Claim 6:

Bolten et al. and Finley teach the fireproof glazing unit according to claim 1 (above), Finley teaches wherein the TiO_2 layer is applied by a method selected from the group consisting of magnetron sputtering, sol-gel methods, and CVD methods (Page 4, Para. 34, lines 4-9).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have applied the titanium oxide layer by one of the methods listed if these methods are suitable ways to apply a titanium oxide layer to a glass substrate. These methods are well known in the art.

Product by Process

It should be noted that claim 6 is considered product-by-process claims, therefore, determination of patentability is based on the product itself. See MPEP 2113. The patentability of the product does not depend on its method of

production. If the product-by-process claim is the same as or obvious from a product of the same prior art, the claim is unpatentable even though the prior product was made by a different process. *In re Thorpe*, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed.Cir.1985)

Claim 7:

Bolten et al. and Finley teach the fireproof glazing unit according to claim 1 (above), wherein the fireproof layer displays an absorption of at least 70% within the wavelength spectrum from 800 nm to 1400 nm.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have chosen a fireproof material that will absorb 70% of the near infrared radiation that attempts to transmit through the fireproof glazing. The fireproof layer is able to accommodate heat allowing the layer to absorb as much heat as possible preventing this infrared radiation from traveling through the glazing. The type of material chosen is a design choice, which provides for the overall characteristics of the fireproof glazing.

Claim 8:

Bolten et al. and Finley teach the fireproof glazing unit according to claim 1 (above), wherein the TiO_2 layer displays an absorption between 3% and 15% within the wavelength spectrum from 320 nm to 480 nm.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have created a titanium oxide film to an appropriate thickness in order for the material to display the optical characteristics as desired. At a certain thickness, titanium oxide will display distinct characteristics. So in order to provide the fireproof glazing with the desired characteristics one would obviously alter the layers thickness.

Claim 9:

Bolten et al. and Finley teach the fireproof glazing unit according to claim 1 (above), wherein the TiO_2 layer displays a reflection of at least 40% within the wavelength spectrum from 320 nm to 480 nm.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have created a titanium oxide film to an appropriate thickness in order for the material to display the optical characteristics as desired. At a certain thickness, titanium oxide will display distinct characteristics. So in order to provide the fireproof glazing with the desired characteristics one would obviously alter the layers thickness.

Claim 10:

Bolten et al. and Finley teach the fireproof glazing unit according to claim 1 (above), wherein the TiO_2 layer displays a reflection of at least 40% to 60% within the wavelength spectrum from 320 nm to 480 nm.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have created a titanium oxide film to an appropriate thickness in order for the material to display the optical characteristics as desired. At a certain thickness, titanium oxide will display distinct characteristics. So in order to provide the fireproof glazing with the desired characteristics one would obviously alter the layers thickness.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ryan D. Kwiecinski whose telephone number is (571)272-5160. The examiner can normally be reached on 9 am - 4 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Naoko Slack can be reached on (571)272-6848. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

RDK

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